Based Upon: PCT/EP03/00178

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A heating device ~~having~~ comprising:

an electrical heating conductor arrangement (1.1)~~, which is~~ integrated into a flexible heating element (1) and ~~can be connected~~ connectible to a supply voltage (UV) via a connector cable, a heating circuit (3) formed by the heating conductor arrangement ~~and further elements, including~~ a control member (THY1) for a heating current (iH), and a triggering circuit (2) with a control loop connected to the control circuit ~~member~~ (3) for varying the heating current (iH) and regulating [[the]] a temperature, wherein [[the]] a control of the control member ~~takes place~~ occurs as a function of a deviation between an actual value and a rated value, wherein the triggering circuit (2) is ~~furthermore~~ coupled via a coupling branch (5) to the heating circuit (3) for picking up an electrical ~~measurement~~ measured value (U21) ~~current or voltage~~ which is a function of the temperature of the heating conductor arrangement (2.1), and the control loop [[has]] having a digitizing stage (2.11) of a digital circuit arrangement (2.1), and ~~wherein~~ the triggering circuit (2) ~~is embodied in such a way~~ formed so that the control of the control member (THY1) for regulating a set temperature of the heating element (1) takes place on a [[the]] basis of data developed by the digitizing stage (2.11)[[,]]; and

~~characterized in that~~

the measured ~~quantity~~ value (U21) [[is]] conducted indirectly to the digitizing stage (2.11) via a feed branch (5) for developing a digital actual value via an analog time function element arranged upstream of the digitizing stage (2.11)[[,]] which has a resistor/capacitor circuit (R7, C6).

2. (Currently Amended) The heating device in accordance with claim 1, wherein ~~characterized in that~~ the measured ~~quantity~~ value (U21) is picked up by ~~means of~~ a voltage divider formed in the heating circuit (3), which is formed ~~constituted on the one hand~~ by ~~means of~~ the heating conductor arrangement (1.1) ~~constituting~~ forming a temperature-dependent resistor, and ~~on the other hand~~ by ~~means of~~ at least one resistor element (R21).

3. (Currently Amended) The heating device in accordance with claim [[1 or]] 2, wherein ~~characterized in that~~ the digitizing stage (2.11) has a time-measuring element for developing the actual digital value, and ~~that~~ the actual digital value corresponds to an actual time value until one of a preset [[or]] and a presettable charge voltage of [[the]] a capacitor (C6) ~~has been~~ is reached, in the

digitizing stage (2.11) a rated time value is one of preset ~~or is~~ and presettable as the rated value, and for heating[[,]] the triggering of the control member (THY1) takes place as a function of the deviation of [[an]] the actual time value from the rated time value.

4. (Currently Amended) The heating device in accordance with ~~one of the preceding claims, characterized in that~~ with claim 3, wherein one connector of the capacitor (C6) is coupled via a charging resistor (R7) to a pole of the supply voltage (UV) and [[the]] an other connector is coupled to the heating circuit (3) via the coupling branch (5), and for detecting the measured ~~quantity~~ value (U21) and developing the actual value the control member (THY1) is triggered by ~~means of~~ the digital circuit arrangement (2.1).

5. (Currently Amended) The heating device in accordance with ~~one of the preceding claims, characterized in that~~ claim 4, wherein the capacitor (C6) is connected to the supply voltage (UV) by a rectifier (D2).

6. (Currently Amended) The heating device in accordance with ~~one of the preceding claims, characterized in that~~ claim 5, wherein for developing the rated value the control member (THY1) is brought into [[its]] a non-triggered state in which [[it]] the control member (THY1) interrupts the heating circuit, and the other connector of the capacitor (C6) is connected to a ~~further~~ voltage divider (8) for picking up a component voltage which ~~can be set to correspond~~ is settable to a desired temperature and for developing the rated value from the component voltage.

7. (Currently Amended) The heating device in accordance with claim 6, wherein a detection ~~characterized in that the pick-up~~ of the component voltage takes place by ~~means of~~ a switching member (S3) which is temporarily triggered via the digital circuit arrangement (2.1), and [[the]] at least one of a developed rated value ~~and/or the~~ and a developed actual value ~~is/are~~ is stored for performing a rated/actual value comparison in the digital circuit arrangement (2.1).

8. (Currently Amended) The heating device in accordance with ~~one of the preceding claims, characterized in that~~ claim 7, wherein the digital circuit arrangement (2.1) ~~is designed for generating~~ generates a reference value as [[the]] a common reference value for the rated value and the actual value.

9. (Currently Amended) The heating device in accordance with claim 8, wherein ~~characterized in that~~ for developing the reference value[[,]] the control member (THY1) and the switching member (S3) are placed in ~~their~~ an interrupted state and the capacitor (C6)[[,]] which is connected via [[the]] one of the one [[or]] connector and the other connector with the digital circuit arrangement (2.1), is dischargeable ~~can be discharged~~ by ~~means of~~ the ~~latter~~ digital circuit arrangement (2.1) for performing the reference measurement, and is subsequently charged via the charging branch (7), the coupling branch (5) and the resistor element (R21) of the heating circuit (3), and ~~that in the process~~ the time until [[the]] a charge voltage of the capacitor (C6) ~~has been~~ is reached, measured by ~~means of~~ the time-measuring member of the digital circuit arrangement (2.1), is stored as the reference value.

10. (Currently Amended) The heating device in accordance with claim 9, wherein ~~characterized in that~~ the digital circuit arrangement (2.1) ~~is embodied in such a way that~~, for temperature regulation, initially determines the reference value during a supply half-wave ~~is determined~~ and ~~thereafter~~ then the rated value and the actual value are determined ~~in the course of~~ during respective further half-waves, and the temperature is adjusted on the basis of a comparison of the rated value and the actual value and[[,]] following an intermission in which the triggering of the control member (THY1) is interrupted~~, the mentioned~~ steps from the reference value development to the intermission time are cyclically repeated.

11. (New) The heating device in accordance with claim 1, wherein the digitizing stage (2.11) has a time-measuring element for developing the actual digital value, and the actual digital value corresponds to an actual time value until one of a preset and a presettable charge voltage of a capacitor (C6) is reached, in the digitizing stage (2.11) a rated time value is one of preset and presettable as the rated value, and for heating the triggering of the control member (THY1) takes place as a function of the deviation of the actual time value from the rated time value.

12. (New) The heating device in accordance with with claim 1, wherein one connector of a capacitor (C6) is coupled via a charging resistor (R7) to a pole of the supply voltage (UV) and an other connector is coupled to the heating circuit (3) via the coupling branch (5), and for detecting the measured value (U21) and developing the actual value the control member (THY1) is triggered by the digital circuit arrangement (2.1).

13. (New) The heating device in accordance with claim 1, wherein a capacitor (C6) is connected to the supply voltage (UV) by a rectifier (D2).

14. (New) The heating device in accordance with claim 1, wherein for developing the rated value the control member (THY1) is brought into a non-triggered state in which the control member (THY1) interrupts the heating circuit, and the other connector of a capacitor (C6) is connected to a voltage divider (8) for picking up a component voltage which is settable to a desired temperature and for developing the rated value from the component voltage.

15. (New) The heating device in accordance with claim 14, wherein a detection of the component voltage takes place by a switching member (S3)

which is temporarily triggered via the digital circuit arrangement (2.1), and at least one of a developed rated value and a developed actual value is stored for performing a rated/actual value comparison in the digital circuit arrangement (2.1).

16. (New) The heating device in accordance with claim 1, wherein the digital circuit arrangement (2.1) generates a reference value as a common reference value for the rated value and the actual value.

17. (New) The heating device in accordance with claim 16, wherein for developing the reference value the control member (THY1) and the switching member (S3) are placed in an interrupted state and the capacitor (C6) which is connected via one of the one connector and the other connector with the digital circuit arrangement (2.1), is dischargeable by the digital circuit arrangement (2.1) for performing the reference measurement, and is subsequently charged via the charging branch (7), the coupling branch (5) and the resistor element (R21) of the heating circuit (3), and the time until a charge voltage of a capacitor (C6) is reached, measured by the time-measuring member of the digital circuit arrangement (2.1), is stored as the reference value.

18. (New) The heating device in accordance with claim 17, wherein the digital circuit arrangement (2.1), for temperature regulation, initially determines the reference value during a supply half-wave and then the rated value and the actual value are determined during respective further half-waves, and the temperature is adjusted on the basis of a comparison of the rated value and the actual value and following an intermission in which the triggering of the control member (THY1) is interrupted steps from the reference value development to the intermission time are cyclically repeated.